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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,029	10/28/2003	Shin-Pin Huang	19730-0007	5658

7590 01/12/2005  
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EXAMINER
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SEVER, ANDREW T

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/695,029

Applicant(s)

HUANG, SHIN-PIN

Examiner

Andrew T Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the DC power coming from a car as is claimed in claims 7 and 16 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

2. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

The background of the invention is not in proper idiomatic English and is difficult to read. It appears to be a literal translation of a foreign document. It lacks proper subject verb agreement among other things including improper use of commas. For example on page one (this is not an exhaustive list of examples): "The advantage of the fixed projector is the highly powerful function, which can project the real images of objects, films, and transparencies onto a wall." In that sentence it is not at all clear what powerful function is being referred too. Also as way of a second example page 1 includes the contraction "can't", in general in formal writing, such as patent applications, contractions are not proper and "can't" should be replaced with cannot.

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 9-11 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (JP 06-82765 as translated by Schreiber Translations for the US patent office in December 2004.)

Suzuki teaches in figures 6 and 16 a projection device with a battery pack (30), comprising:

A battery pack (30) having a battery for providing a battery current;

A converter electrically connected to said battery pack for receiving said battery current to be converted into a DC current (batteries in general only provided DC current, however converters are provided to change the DC current to proper voltage for various components as shown in circuit diagram figure 15, replacing 40 with 30 (40 is an AC adaptor, however, the AC adaptor and battery have the same connections to the projector and are designed to be interchangeable, so the circuitry besides 40 and 43 would be the same. See paragraph 16); and

A projector (1) electrically connected to said converter and powered by said DC current.

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*With regards to applicant's claim 2:*

Part 55 is specifically a DC/DC converter.

*With regards to applicant's claim 9:*

Suzuki also teaches an AC adaptor (40).

*With regards to applicant's claim 10:*

See the with regards to applicant's claim 2.

*With regards to applicant's claim 11:*

The projector is either engaged with the A/C adaptor or the battery.

*With regards to applicant's claim 18:*

The power supply, either the A/C or battery is positioned on the projector when in use.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. as applied to claims 1, 2, 9-11, and 18 above, and further in view of Pruett (US 6,624,585.)

As described above in more detail Suzuki teaches a projection device with a battery pack and a converter, however Suzuki does not specifically teach that the converter boosts a voltage of the DC current for a lamp of the projector. Pruett teaches in column 1 lines 1-40 that in small portable projectors, which utilize low-voltage DC power sources (such as that of a battery), there is a need for an igniter for an arc lamp, which requires a large voltage. Pruett teaches that such an ignition circuit comprises a DC-DC converter, which converts the relatively low voltage to the high voltage necessary to ignite the arc lamp (see column 1 line 51 through column 2 line 9, the DC-DC converter comprises the DC to AC converter, AC transformer and AC to DC converter combined.) Since igniting an arc lamp requires high voltage and since Pruett teaches that this can be provided by the use of a converter it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide such a converter for providing DC current for a lamp of the projector of Suzuki.

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7. Claims 4-6, 8, 13-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki as applied to claims 1, 2, 9-11 and 18 above, and further in view of Billington et al. (US 6,588,907)

As described in more detail above, Suzuki teaches a projection device with a battery pack, which includes among other things a battery. Suzuki does not teach specifically that the battery is rechargeable. The batteries used in portable electronics such as Suzuki's are typically rechargeable, for example Billington teaches in column 2 lines 55-65 the use of a rechargeable battery to power the fan and control circuits of a projector after powering down the light source in order to insure proper cooling. Billington further teaches in column 5 lines 23-30 that with a sufficiently powerful enough battery such as that taught by Suzuki the rechargeable battery could be used to power the entire projector. As taught in column 3 lines 20-40 the rechargeable nature of the battery allows the battery to be ready to power the projector whenever the projector is disconnected from a wall socket, without having to frequently buy new batteries and dispose of old (toxic) batteries. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a rechargeable battery to provide the battery current in the projection device of Suzuki.

*With regards to applicant's claim 5:*

Billington teaches a charger (part 36 in figure 2).



*With regards to applicant's claim 6:*

Inherently the charger either receives AC or DC power to charge the battery.

*With regards to applicant's claim 8:*

Billington teaches in column 3 lines 40-50 as well as elsewhere, that it is useful to provide feedback to the user of a battery powered projector that the battery is at low capacity, so that a user does not unplug the projector or in the case that the projector is already running on battery power, the user will plug the projector in the case where the battery is about to drop below a threshold level where it can no longer power the projector, which can potentially result in damage to the projector (from the light source overheating). Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an indicator for indicating a capacity of the battery in the projection device of Suzuki.

8. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Billington as applied to claims 6 and 15 above, and further in view of Chan (US 5,281,985.)

Suzuki in view of Billington teach a projection device with a battery pack having a rechargeable battery and a charger for charging the battery, however Suzuki in view of Billington does not specifically teach that electrical power for charging said battery comes from the power systems of a car. Chan teaches a video system for a car, which among other things includes a portable projector (16, see column 4 lines 12-19), which is

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powered by the car's battery through the car's cigarette lighter (a DC power source).

Chan teaches the advantages of such a system in column 1 lines 43-60 as well as column 2 lines 1-14, mainly one can watch projected video in the privacy of one's car, while taking advantage of a car's battery greater capacity to store power and also the car's superb sound system. Accordingly it would have been obvious to one of ordinary skill in the art to use a car provide DC current for charging and/or powering the projector of Suzuki when a user chooses to use the projector in a car situation as is taught by Chan.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 5,170,196 to Itoh teaches a portable projector having a battery power supply (1) in figure 1.

US 6,522,361 to Higuchi et al. teaches in figure 1 circuitry in a portable video electronic device that is powered by a battery which includes a feedback system for informing a user how much charge remains in a batter.

US 3003/0090633 to Miyata teaches in paragraph 10 the use of DC-DC circuits for boosting voltages.

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US 6,726,329 to Li et al. teaches in figure 15B the use of DC-DC voltage converters for providing DC voltage to LED light sources.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



**JUDY NGUYEN**  
**SUPERVISORY PATENT EXAMINER**